

FORM 1

REGULATION 9

COMMONWEALTH OF AUSTRALIA

PATENTS ACT 1952

APPLICATION FOR A STANDARD PATENT OF ADDITION

I, MICHAEL JOHN COTTERILL, of 43 Rocklea Crescent, Sylvania Heights, New South Wales 2224, Commonwealth of Australia, hereby apply for the grant of a Patent of Addition for an invention entitled:-

"DUCIED KEYBOARD MECHANISM"

which is described in the accompanying Complete Specification.

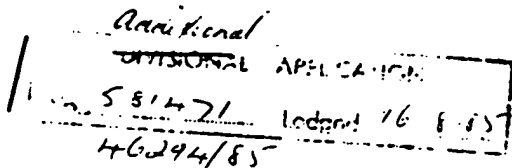
We request that the patent may be granted as a patent of addition to the patent applied for on Patent No. 581,471 in the name of MICHAEL JOHN COTTERILL.

We request that the term of the patent of addition be the same as that for the main invention or so much of the term of the patent for the main invention as is unexpired.

Our address for service is:

SHELSTON WATERS
55 Clarence Street
SYDNEY, N.S.W. 2000.

DATED this 14th Day of September, 1989
MICHAEL JOHN COTTERILL



REC.

S010146 14/09/89

(NON-CONVENTION—One or More Persons)

FORM 7—REGULATION 12 (1)

COMMONWEALTH OF AUSTRALIA

PATENTS ACT, 1952-1969

DECLARATION IN SUPPORT OF AN
APPLICATION FOR A PATENT

FEE STAMPS

(a) Here insert (in full) Name of Applicant(s).

In support of the Application made by ^(a)
MICHAEL JOHN COTTERILL

for a patent for an invention entitled:

(b) Here insert Title of Invention.

(b) "DUCTED KEYBOARD MECHANISM"

~~I/We,~~ ^(a) MICHAEL JOHN COTTERILL

(c) Here insert (in full) Address(es).

of ^(a) 43 Rocklea Crescent, Sylvania Heights, New
South Wales 2224, Australia

do solemnly and sincerely declare as follows:

1. I am/~~I/We~~ the Applicant(s) for the Patent.

2. I am/~~I/We~~ the actual Inventor(s) of the invention (~~or, where a person other than the Inventor is the Applicant).~~

2. ^(a)

(d) Here insert full Name(s) and Address(es) of Actual Inventor(s) if other than Applicant(s).

is/are

the actual Inventor(s) of the invention and the facts upon which I am/we are entitled to make the Application are as follows:

~~I am/We are the Assignee(s) of the said Inventor(s).~~

DECLARED at

this

4th

day of

1981

(e)

(e) Signature(s) of Applicant(s).

To THE COMMISSIONER OF PATENTS.

SHELSTON WATERS

PATENT ATTORNEYS

55 CLARENCE STREET, SYDNEY
AUSTRALIA

(12) PATENT ABSTRACT (11) Document No. AU-A-41393/89
(19) AUSTRALIAN PATENT OFFICE

- (54) Title
DUCTED KEYBOARD MECHANISM
- (51)* International Patent Classification(s)
A47B 021/02 A47B 046/C0
- (21) Application No. : 41393/89 (22) Application Date : 14.09.89
- (43) Publication Date : 01.08.91
- (61) Related to Addition(s) : 46294/85
- (71) Applicant(s)
MICHAEL JOHN COTTERILL
- (72) Inventor(s)
MICHAEL JOHN COTTERILL
- (74) Attorney or Agent
SHELSTON WATERS
- (57) Claim

1. A keyboard supporting apparatus of the kind comprising a keyboard support bracket, a mounting bracket, a linkage system connecting the keyboard support bracket and the mounting bracket, said linkage system comprising a four bar linkage or pantograph which enables the altitude of the keyboard support bracket to be raised or lowered while maintaining the keyboard bracket at a pre-determined angle of tilt, wherein at least one bar of the linkage system is associated with an unobstructed channel of sufficient cross-sectional dimension to enable a keyboard cable and a cable connector to be threaded therethrough.

COMMONWEALTH OF AUSTRALIA

FORM 10

PATENTS ACT 1952

C O M P L E T E S P E C I F I C A T I O N

FOR OFFICE USE:

	Class	Int.Class
Application Number:		
Lodged:		

Complete Specification Lodged:
Accepted:
Published:

Priority:

Related Art:

Name of Applicant: MICHAEL JOHN COTTERILL

Address of Applicant: 43 Rocklea Crescent, Sylvania Heights New
South Wales 2224, Australia

Actual Inventor: Michael John Cotterill

Address for Service: SHELSTON WATERS, 55 Clarence Street, Sydney

Complete Specification for the Invention entitled:

"DUCTED KEYBOARD MECHANISM"

The following statement is a full description of this invention,
including the best method of performing it known to me:-

(Patent of Addition to 581,471 dated 16th August, 1985)

This invention relates to an improved keyboard support mechanism. This invention is a modification of the invention described in Patent No. 581,471 hereinafter called "the parent invention" and the description of which is incorporated in this specification by reference.

The parent invention relates to a keyboard supporting apparatus comprising a keyboard support bracket, a mounting bracket adapted to mount the apparatus for example to a desk underside surface and a linkage system connecting the keyboard support bracket and the mounting bracket. The linkage system is a four bar linkage or pantograph which enables the altitude of the keyboard support bracket to be raised or lowered while maintaining the keyboard bracket at a pre-determined angle of tilt.

According to the present modification there is provided a keyboard support apparatus of the kind described above wherein the linkage system comprises a channel of sufficient cross-sectional dimension to enable a keyboard cable and a cable connector to be threaded therethrough.

The invention will now be more particularly described by way of example only with reference to the accompanying drawings wherein:

Figure 1 is a perspective schematic drawing of an embodiment of the invention;

Figure 2 is a schematic drawing of a portion of the embodiment of Figure 1;

Figure 3 is a side elevation of the embodiment of

Figure 1;

Figure 4 is a plan view of the embodiment of Figure 1.

Figure 5 is a second embodiment of the invention.

With reference to the drawings, there is shown a keyboard support apparatus comprising mounting brackets 1 and 2 having laterally extending flanges 3, 4 respectively adapted by means of screw holes or slots (not illustrated) for attachment to the underside of a desk top and having downwardly extending plates 5, 6.

10 The apparatus comprises keyboard support brackets 11, 12 having laterally extending flanges 13, 14 adapted and downwardly extending plates 15, 16.

 The support brackets 11, 12 are connected with mounting brackets 1, 2 by means of a linkage comprising link bar 20 which is pivotally connected at one end by a pivot pin 21 to bracket 1 and at the other end via pin 22 to bracket 11 and by means of link bar 30 which is connected at one end by a pivot pin 7 to mounting bracket 1 and via pivot pin 8 to support bracket 11.

20 Brackets 1, 11 and link bars 20, 30 constitute a "four bar linkage" or pantograph whereby support brackets 11 and 12 may be raised or lowered relative to mounting brackets 1 and 2 while maintaining a predetermined angle of tilt.

 The present apparatus includes a modification that bar 30 is, or is one wall, of hollow square section channel 31 having a top wall 32 and bottom wall 33 of sufficient cross-sectional dimension that a cable having a

connector (such as a plug or socket at its free end) may be threaded from a keyboard supported upon brackets 11 and 12 through channel 31 associated with bar 30 to the end adjacent brackets 1, 2.

Hollow channel 31 is desirably provided with an entry 41 on its upper surface at the end adjacent support brackets 11, 12 to facilitate entry of a keyboard cable and may be provided with a grommet 42 at entry 41 and/or with clips 43 to retain a cable in the channel. If
10 desired, the channel may be provided with one or more longitudinally extending partitions to permit cable segregation. It will be understood that bar 30 need not be a box section and could be a U-shaped channel. One of the other bars e.g. bar 20 could be a hollow box section, instead of, or in addition to bar 30.

Figure 5 shows an embodiment in which a strut 40 is provided from pivot pin 31 to pivot pin 22 and both strut 40 and bar 20 are slotted at pin 22 to facilitate tilt of the keyboard and enable a single clamp or other lock
20 mechanism to enable or disable tilt and altitude adjustment. Parts in Figure 5 corresponding in function to parts in Figure 3 are identified by corresponding numerals.

Desirably also a spring (not shown) is provided to assist in raising brackets 11, 12 from a lowered position.

As will be apparent to those skilled in the art the modification described enables a keyboard cable to be maintained safe from interference with the keyboard

support mechanism or from accidental tension. The box section associated with bar 30 provides excellent torsional strength and reduces the number of parts involved in the assembly. The channel member provides structural strength and resistance to twisting or deflection such as is encountered under tortional load encountered in normal use, for example a person placing body weight on one side of the keyboard support. The mechanism herein described may be provided with locking means and other features described in Patent No. 581,471.

THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:-

1. A keyboard supporting apparatus of the kind comprising a keyboard support bracket, a mounting bracket, a linkage system connecting the keyboard support bracket and the mounting bracket, said linkage system comprising a four bar linkage or pantograph which enables the altitude of the keyboard support bracket to be raised or lowered while maintaining the keyboard bracket at a pre-determined angle of tilt, wherein at least one bar of the linkage system is associated with an unobstructed channel of sufficient cross-sectional dimension to enable a keyboard cable and a cable connector to be threaded therethrough.
2. A mechanism according to Claim 1 wherein the channel is a box section channel.
3. A mechanism according to claims 1 or 2 wherein one side of the channel is a bar of the linkage system.
4. A mechanism according to any one of the preceeding claims wherein the at least one bar is a channel section providing sufficient structural rigidity to resist twisting or deflection under tortional load encountered in normal use.
5. A mechanism according to any one of the preceeding claims including cable clips mounted within the channel.
6. A mechanism according to any one of the preceding claims whereby the keyboard support bracket and/or a linkage bar pivotally connected to it is slotted at the connecting pivot pin to provide for tilt adjustment of the support.

7. A mechanism according to any one of the preceding claims including a single locking means which locks the mechanism against change in altitude and tilt.
8. A mechanism according to Claim 6 wherein the lock mechanism is a threaded clamp.
9. A mechanism substantially as herein described with reference to the drawings.

DATED this Fourteenth day of September 1989.

MICHAEL JOHN COTTERILL

Attorney: IAN T. ERNST

Fellow Institute of Patent Attorneys of Australia
of SHELSTON WATERS

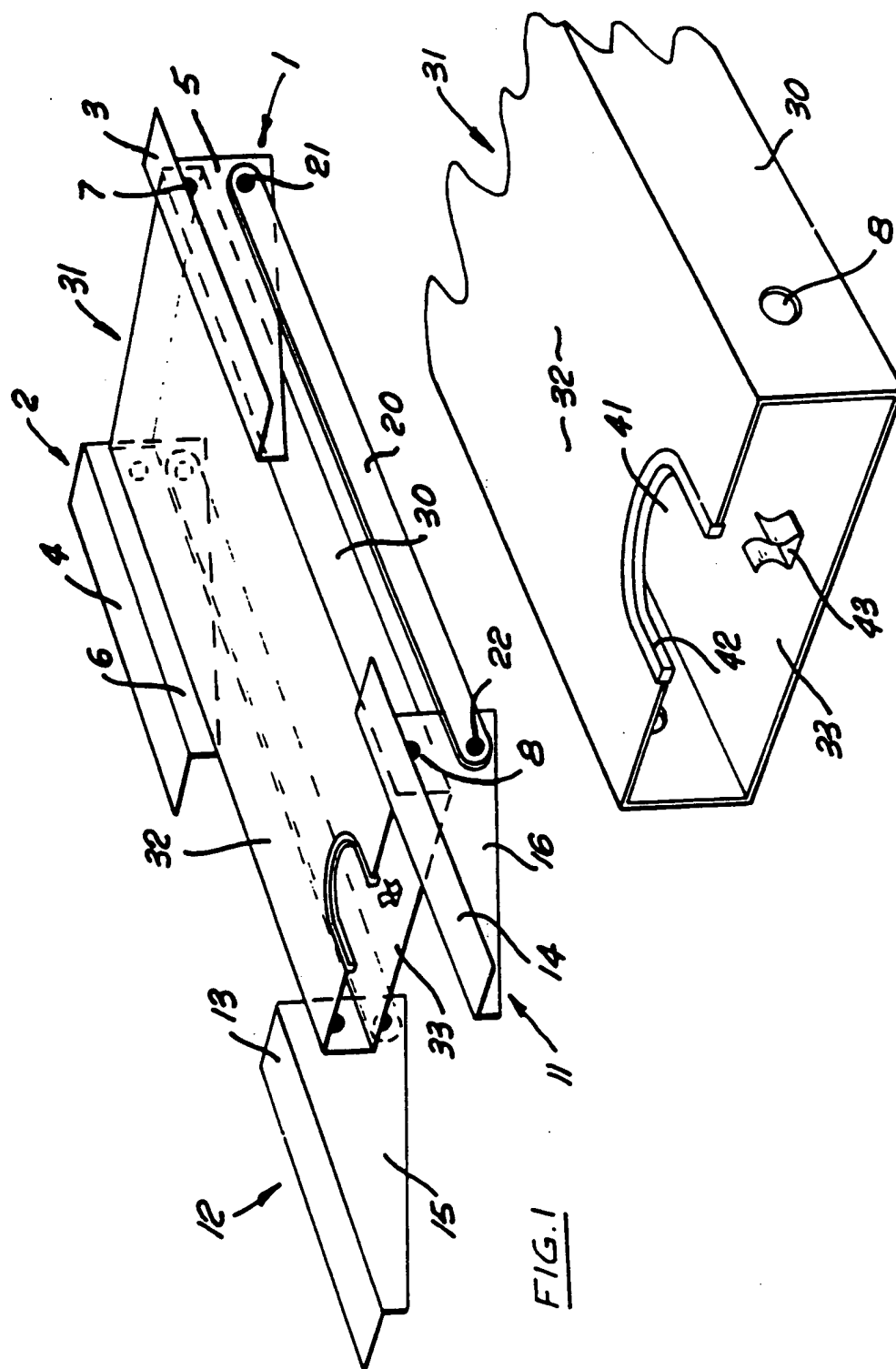


FIG. 2

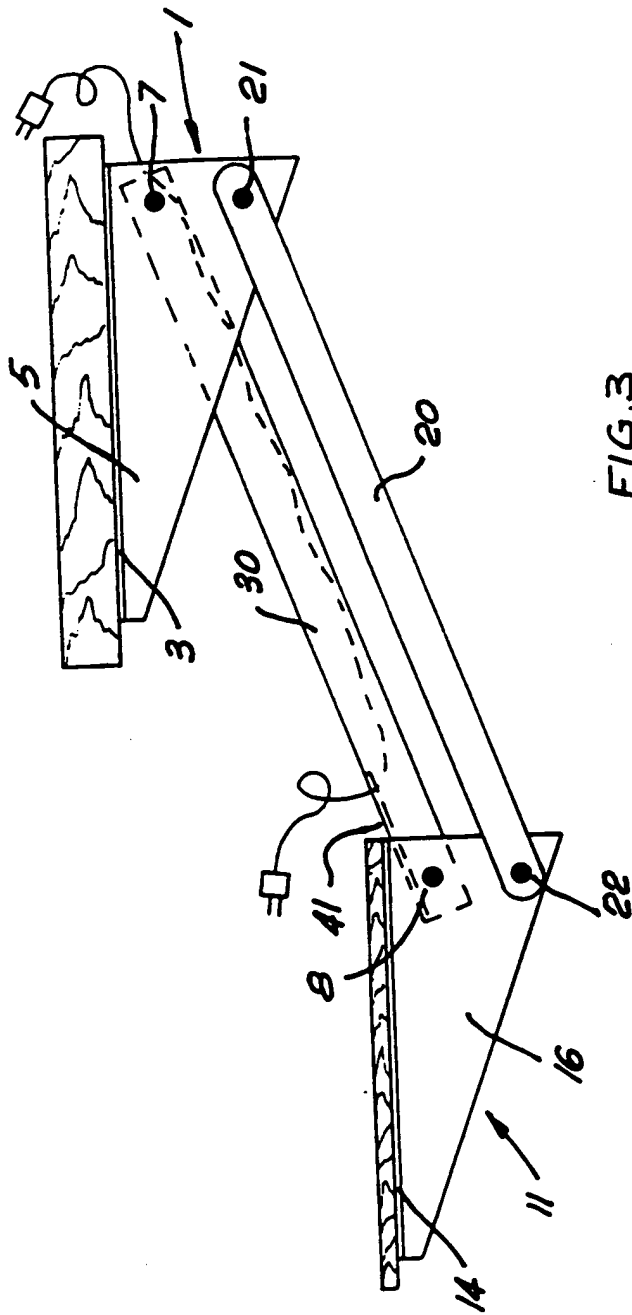


FIG. 3

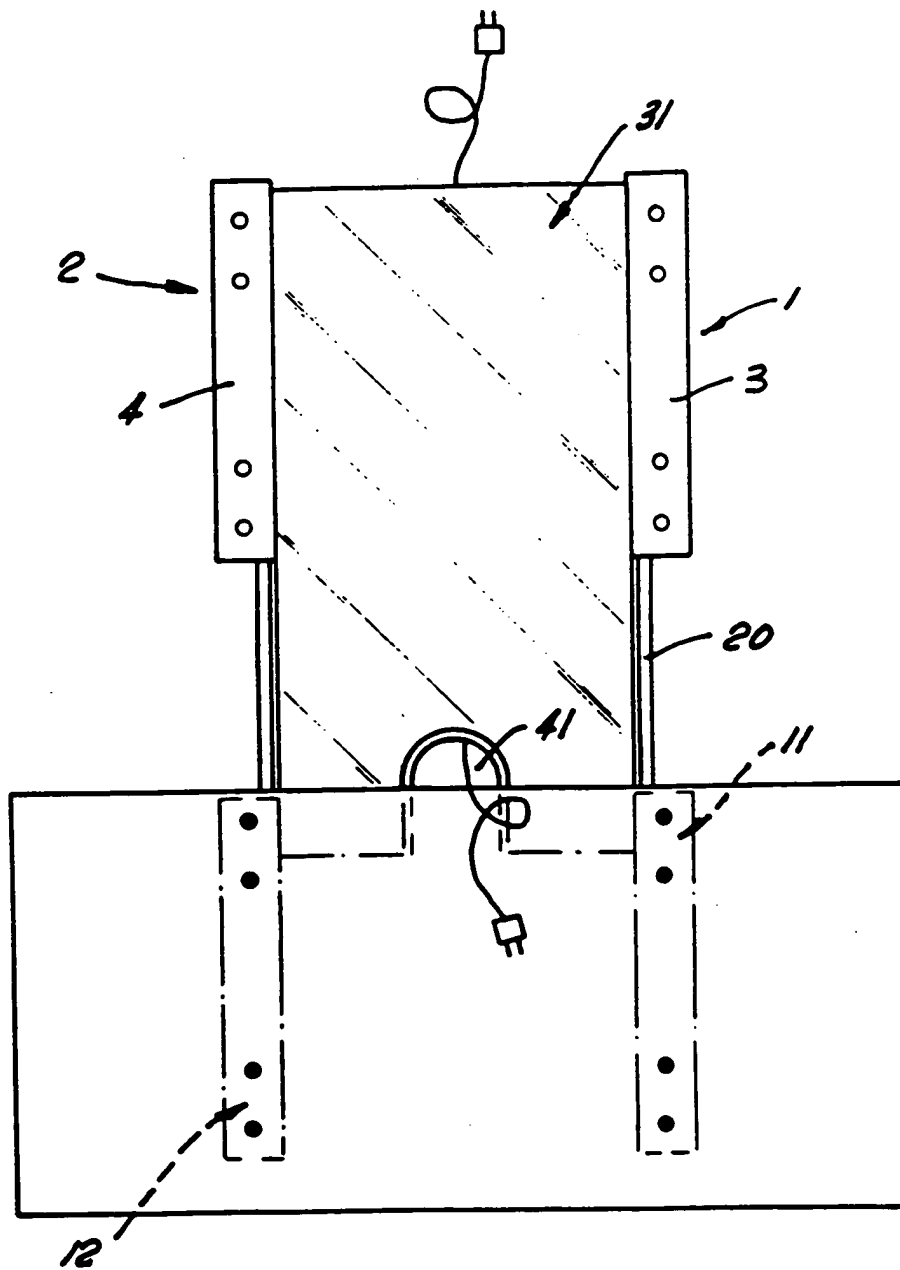
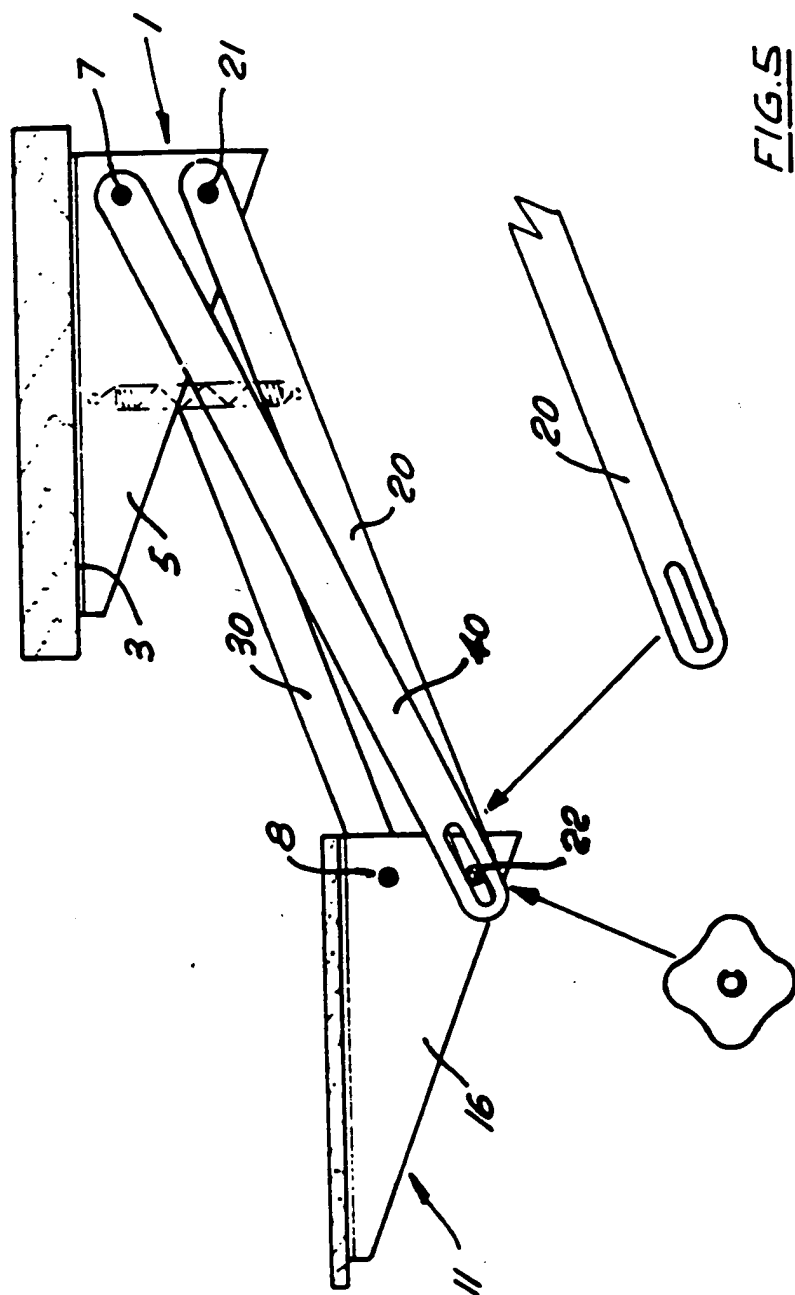


FIG. 4

FIG. 5